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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,383	03/30/2005	Isabella Venturini	163-571	6564

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EXAMINER

CUTLIFF, YATE KAI RENE

ART UNIT	PAPER NUMBER
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1609

MAIL DATE	DELIVERY MODE
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05/30/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/510,383	VENTURINI ET AL.	
	Examiner	Art Unit	
	Yate K. Cutliff	1609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 6-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 21-23 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

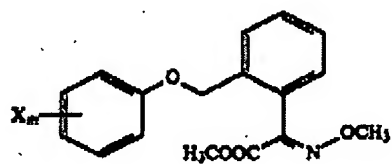
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|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/05/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Election/Restrictions***

1. Applicant's election of Group I (claim 5, in part, drawn to the compound and the composition of formula I where Z is CH and Y is OCH₃; and A, X₁ – X₅, and n are defined in claim 1, and the species of compound no. 142 (Example 4) with traverse is acknowledged.

Applicant's arguments with regard to the restriction requirement have been considered. Specifically, Applicant argues that the compound having a general formula (I), as defined in claim 1 is novel and different from the compound of formula I of U.S. Patent 5,545,664. Applicant's reason is that the compound of formula (I), of Applicant's invention does not have a group which is defined as R¹O-N=CH₂R⁴ as set out in formula I of U.S. Patent 5,545,664.

A review the record indicates that the Examiner inadvertently cited the wrong reference in the restriction requirement. The correct reference is U.S. Patent 5,145,980, having the general formula I as set out below.



The above formula I of the '980 patent includes the features of Applicant's genus of formula (I) (see compounds 1.197 – 1.202 in Table 1). Formula (I) lacks novelty because it reads on the '980 patent when n=0, X₁ and X₅ are an H, X₂ and X₄ is a

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halogen and X_3 is an R group, and $Z = N$, and Y is OCH_3 . This means that Applicant's genus of formula (I), is known in the art and it is not a special technical feature and the claims of Groups I-IX, as set out in the original restriction requirement lack unity of invention and are not so linked by the same corresponding special technical feature as to form a single general inventive concept.

Therefore, Applicant's election with traverse of the grounds for restriction in the reply filed on March 26, 2007 is acknowledged. The traversal is on the ground(s) that formula I of U.S. Patent 5,545,664 had a group, as $R^1O-N=CH_2R^4$, that is not included in Applicant's general compound of formula (I) was considered and discussed above. However, in light of Examiner's correcting the prior art reference, the argument is not found persuasive.

The requirement is still deemed proper and is therefore made FINAL.

Claims 1-5 and 21-23 drawn to the compound and composition of formula (I) where Z is N and Y is OCH_3 ; and where Z is N and Y is $NHCH_3$ or NH_2 are withdrawn from consideration. Claims 6-10 drawn to the process of preparing the compound of formula (I) are withdrawn from consideration. Claims 11-20 drawn to the method of using the compound of formula (I) are withdrawn from further consideration pursuant to 37 CFR 1.142(b). The claims as set out above are withdrawn from consideration as being drawn to a nonelected claims, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on March 26, 2007.

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Claims 1-5 and 21-23 drawn to the compound and composition of formula (I) where Z is CH and Y is OCH₃, NHCH₃ or NH₂ are under examination.

Claims 1-23 are currently pending.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1 – 4 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anthony et al. (EP Application No. 89302330.9, Publication No. 0335519), in view of Clough et al. (U.S. Patent No. 5,021,581).

Applicant Claims

Applicant's claims 1 and 21 disclose a compound and composition having the general formula (I) where n=0-4, X₁, X₂ and X₃ are an R group (defined by claim 1), X₄ and X₅ and two of the remaining X₁, X₂ and X₃ are a hydrogen or halogen, on the condition that at least two of said groups represent a halogen; Z = CH, and Y is OCH₃,

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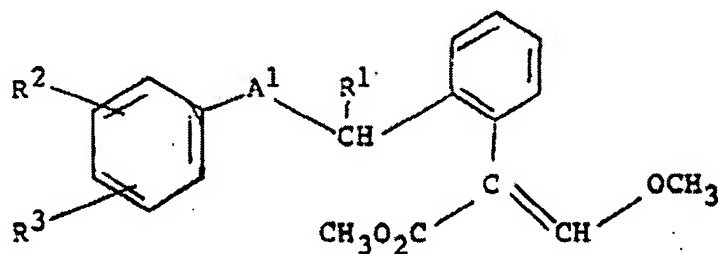
NHCH₃ or NH₂. Examples of this compound/composition are set out in Example 4, on pages 26-42 of the specification.

Claims 2 and 3 set out that the compounds of formula (I) of claim 1 are characterized as isomeric mixtures of any portion, or the isomer E or the isomer Z of the compound.

Claim 4 discloses compounds of formula (I) where X₃ are an R group, X₂ and X₄ represent a halogen atom, and X₁ and X₅ represent hydrogen when n equals zero (0).

Determination of the Scope and Content of the Prior Art (MPEP §2141.01)

Anthony et al. teaches the use of a compound of formula (I) (see the compound below) to kill or control insects, mites or nematodes (roundworm).



In claim 1 of Anthony et al., R¹ is a hydrogen atom, A¹ is an oxygen atom, R² is a hydrogen, alkyl, alkoxy, aryl, arylalkyl, or heteroaryloxy, and R³ is hydrogen, halogen, alkyl, alkoxy or R² and R³ when they are in adjacent position on the phenyl ring. More specifically, Applicant is directed to Table 1, compounds 4, 5, 37 – 39 and 50, where structurally similar compounds show at least two halogens on the phenyl ring for R² and R³. Also, Applicant is directed to Table 1, compounds 10 and 53, where structurally

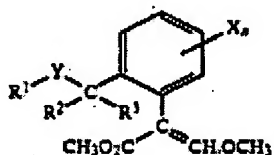
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similar compounds show at least one halogen and an alkoxy or aryloxy on the phenyl ring for R^2 and R^3 .

The compounds of formula (I) of Anthony et al. exist in E or Z isomeric form, with the E isomer the more active and the preferred compound of formula (I) (page 3, lines 37 – 39): The effective active properties of the compound of formula (I), against control insects, mites or nematodes (roundworm), of Anthony et al. are set out in Table III.

Further, the composition of Anthony et al. may also contain another pesticidal material, such as insecticide, nematocide or acaricide, or a fungicide. (page 9, lines 28 – 29). Lastly, the concentrate of Anthony et al. contains from 5-95% by weight of the active ingredient. (page 10, line 4).

Clough et al. teaches the use of a compound of formula (I) (see the compound below) as a fungicide.



Clough et al., in Table I, discloses compounds where X, R^2 and R^3 are a hydrogen atom; and R^1 is defined such that it is a phenyl with two halogen substituents or a halogen and an alkyl, or the substituents are a halogen and an alkoxy. (see compounds 41-45, 48, 49, 50 – 57, and 167). The compounds of formula (I) of Clough et al. are sometimes obtained in the form of mixtures of geometric isomers. The invention embraces such isomers, and mixtures,..., including those which consist substantially of Z isomers and E isomers. (column 1, lines 45 – 52). Additionally,

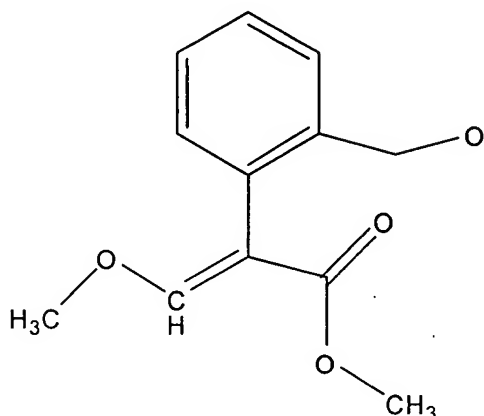
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Clough et al, states one isomer is more active fungicidally than the other, the more active isomer usually being the one where the groups $-\text{CO}_2\text{CH}_3$, and $-\text{OCH}_3$ are on opposite sides of the olefinic bond of the propenoate group (the E-isomer). Therefore, the E isomer is the preferred embodiment of the invention (column 1, lines 61 – 66). The pathogens in which the compound of formula (I) of Clough et al., act as active fungicides are set out in column 28 lines 13 – 61.

Further, the compound of Clough et al. can be a composition in concentrate that may contain up to 95%, by weight of the active ingredient. (column 31, line 1). Lastly, the composition may contain other compounds having complementary fungicidal, herbicidal or insecticidal activity. (column 31, lines 8 – 12).

**Ascertainment of the Difference Between the Scope of the Prior Art
and the Claims (MPEP §2141.012)**

Both Anthony et al. and Clough et al. lacks the express teaching of the phenyl ring, opposite the core structure below, having the general formula (I) where n is zero, X_1 , X_2 and X_3 are an R group (defined by claim 1 of Applicant's invention), X_4 and X_5 and two of the remaining X_1 , X_2 and X_3 are a hydrogen or halogen, on the condition that at least two of said groups represent a halogen. Nor, do the references teach that when n is zero, X_3 , represents an R group, X_2 and X_4 represent a halogen atom, and X_1 and X_5 represent a hydrogen.



**Finding of Prima Facie Obviousness Rational and Motivation
(MPEP §2142-2143)**

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to make a compound for formula (I), where the phenyl group opposite the above core structure would have a substituent R and at least two of the other four positions of occupied by halogen atom, as suggested by Anthony et al. in view of Clough et al., and produce the instant invention. Both references teach structurally similar compounds except the omission of a halogen atom when an alkoxy and halogen are the substituent on the phenyl; or the omission of an alkoxy when two halogen atoms are substituents on the phenyl. (Alkoxy as generally defined by examiner in this instance means alkoxyalkyl, aryloxy, cycloalkylalkoxy and benzyloxy groups). However, both Anthony et al. and Clough et al. teach derivatives that have the same active properties as those claimed by Applicant.

Further, the structural deviation of Applicant has done little to affect the isomeric properties of the active agent because all derivations contain at least one carbon-carbon double bond that lends the compounds to form isometric mixtures. Further, the

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E isomer of Applicant's derivations remains the most active form of the compounds for the stated utility, which is the same active isomer for Anthony et al. and Clough et al.

One of ordinary skill in the art would have been motivated to make the derivatives of Applicant's compounds of formula (I) because of the effectiveness of the compounds of formula (I) in Anthony et al. and Clough et al. as insecticides and fungicides, where the phenyl has at least two halogen substituents or a halogen and an alkoxy substituent, as put forth by the experimental information set out in the references. It is noted that Applicant's specification does not contain any data regarding the properties of the claimed composition, but merely a listing of the compound derivations. Applicant's specification alleges that they have found surprising or unexpected results which indicates that the additional halogen significantly affects the active component. However, there is no evidence of record which clearly demonstrates the alleged unexpected results.

4. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over over Anthony et al. (EP Application No. 89302330.9, Publication No. 0335519), in view of Clough et al. (U.S. Patent No. 5,021,581).

Applicant Claims

Applicant's claims a composition of formula (I) having other active principles compatible with the compound of formula (I), such as acaricides/insecticides, fungicides, phyto-regulators, antibiotics, herbicides and fertilizers. Additionally, Applicant claims that the composition can be in a concentration of active principle range from 1-90%, preferably from 5 to 50%.

Determination of the Scope and Content of the Prior Art (MPEP §2141.01)

Anthony et al. may also contain another pesticidal material, such as insecticide, nematocide or acaricide, or a fungicide. (page 9, lines 28 – 29). Lastly, the concentrate of Anthony et al. contains from 5-95% by weight of the active ingredient, with a suitable range of 10- 85%. (page 10, line 4).

Clough et al. teaches that the composition in concentrate may contain up to 95%, by weight of the active ingredient, with a suitable range being 10 – 85%. (column 31, line 1). Lastly, the composition may contain other compounds having complementary fungicidal activity or plant growth regulating, herbicidal or insecticidal activity. (column 31, lines 8 – 12).

**Ascertainment of the Difference Between the Scope of the Prior Art
and the Claims (MPEP §2141.012)**

Anthony et al. lacks the express teaching of mixing the composition with an antibiotic, herbicide and fertilizer. Clough et al. lacks the express teaching of mixing the composition with an antibiotic and fertilizer. Additionally, Anthony et al. and Clough et al. each lack the express teaching that teach that the composition in concentration is preferably 5 to 50%.

**Finding of Prima Facie Obviousness Rational and Motivation
(MPEP §2142-2143)**

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to add the compositions to other active principles compatible with the a compound of formula (I), as suggested by Applicant, and produce

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the instant invention. Further, the percentage of active compensation in a concentration containing the composition of formula (I), as claimed by applicant is within the ranges suggested by both references.

One of ordinary skill in the art would have been motivated to do this because of the success of Anthony et al. and Clough et al. in preparing a composition with other active principles at the concentration ranges.

A reference is good not only for what it teaches by direct anticipation but also for what one of ordinary skill in the art might reasonably infer from the teachings. (*In re Opprecht* 12 USPQ 2d 1235, 1236 (Fed Cir. 1989); *In re Bode* 193 USPQ 12 (CCPA) 1976). In light of the forgoing discussion, the Examiner concludes that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a). From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Claim Objection

5. Claim 5 is objected to because of the following informalities: The portion of claim 5 as set out below has some typographical errors

- methyl (E)-2-{2-[3,5-dichloro-4-(2,4-dichlorobenzoyloxy)phenoxyethyl]phenyl}-3-methoxyacrylate; methyl (E)-2-{2-[3,5-dichloro-4-(4-chlorobenzoyloxy)phenoxyethyl]phenyl}-3-methoxyacrylate.

Appropriate correction is required.

Allowable Subject Matter

6. Claim 5 is objected for being dependent on claim 1, but contain species that are part of the elected Group, which has allowable subject matter. Applicant is invited to cancel the non-elected species and re-write the claim.

7. The compound number 142 (Example 4, page 41) is found allowable; this compound is a species of claim 1. The following statement is a reason for the indication of allowable subject matter: None of the prior art references teach the compound or suggest the compound that is a C₁-C₁₂ alkyloxy substituted by halogen atoms.

As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

8. **No claims are allowed**

Conclusion

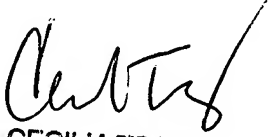
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yate K. Cutliff whose telephone number is (571) 272-9067. The examiner can normally be reached on M-TH 8:30 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang can be reached on (571) 272 - 0562 or Janet Andres at (571) 272 - 0867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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SUPERVISORY PATENT EXAMINER